REMARKS

The Examiner is thanked for the thorough examination of the present application the allowance of claims 6-9, and the indication that all remaining claims embody allowable subject matter. The Office Action made certain objections to the specification, drawings, and claims. These objections have been fully addressed in this response.

Specification objections

The specification was objected to for certain noted informalities. Specifically, the specification was objected to as failing to contain a written description of certain elements in claim 1. Claim 1 has been amended to address this rejection and render this objection moot.

Drawing objections

Similar to the objection to the specification, the drawings were objected to as failing to show certain claimed features (i.e., selecting a plurality of FFF coefficients from the FBF coefficients." The claims have been amended to address and render this objection moot.

Claim objections

Claims 1-5 and 10 are objected to because of certain noted informalities. Claims 1-5 and 10 have been amended in accordance with the Examiner's recommendations.

In the specification

The second paragraph of page 9 has been amended by replacing "where M is the number of the coefficients of the PP 320, N is the number of the coefficients of the WUB 310" with "where M is the number of the coefficients of the *WUB 310*, N is the number of the coefficients of the *PP 320*". Support for the amendment is provided in page 9, lines 1-5 of the specification, wherein it is disclosed that "The coefficient of the WUB 310 which will be fed into the MAP 330 is assumed as a_i. The coefficient of the PP 320 which is copied from the output of the MAP 330 is assumed as b_i. The relationship between a_i and b_i is,

$$(1-\sum_{i=1}^{M} a_i x^i)(1+\sum_{j=1}^{N} b_j x^j) = 1+\sum_{k=1}^{M+N} c_k x^k, \exists c_k = 0 \text{ if } 0<k<n1,"$$

In the claims

Claims 1-20 remain in this application.

Claim 1 has been amended by replacing "an adder receiving the PP output signal and outputting an added signal" with "an adder *coupled to* the PP and outputting an added signal". Support for the amendment is shown in Fig. 3, wherein the adder 314 is coupled to the PP 320 through the FFF 302. Claim 1 has also been amended by replacing "a weight-update block for adapting the FBF coefficients to cancel the post-cursor ISI and selecting a plurality of *FFF* coefficients from the FBF coefficients" with "a *first* weight-update block for adapting the FBF coefficients to cancel the post-cursor ISI and selecting a plurality of *mapping* coefficients from the FBF coefficients". Support for the amendment is provided in page 8, line 12-14 of the specification, wherein it is

disclosed that "The WUB 310 also selects at least one mapping coefficient from the set of the coefficients of the WUB and input the mapping coefficient to the MAP 330", and wherein since the WUB is used for adapting the FBF coefficients, the coefficients of the WUB thus means the FBF coefficients and the WUB selecting a plurality of *mapping* coefficients from the FBF coefficients. For this reason, the "*FFF* coefficients" (which was the result of a typographical error), should be corrected into the "*mapping* coefficients".

Claim 1 has also been amended by replacing "a mapping circuit for translating the *FBF* coefficients by a predetermined method to generate the PP coefficients and outputting the PP coefficients to the pre-processing unit, wherein at least one element of the set of the *FBF* coefficients is different from the corresponding element of the set of the PP coefficients" with "a mapping circuit for translating the *mapping* coefficients by a predetermined method to generate the PP coefficients and outputting the PP coefficients to the pre-processing unit, wherein at least one element of the set of the *mapping* coefficients is different from the corresponding element of the set of the PP coefficients". Support for the amendment is provided in at least page 8, line 12-14 of the specification, wherein it is disclosed that "The MAP 330 translates the mapping coefficient by a predetermined method to generate the updated coefficients of the PP 320. At least one element of the set of the mapping coefficient is different from the corresponding element of the set of the filter coefficients of the PP 320".

Claim 2 has been amended by replacing "the first weight-update block adapts the coefficients" with "the first weight-update block adapts the *FBF* coefficients". Support for

the amendment is provided in claim 1, wherein the first weight-update block adapts the *FBF* coefficients.

Claim 4 has been amended by replacing "the second weight-update block adapts the coefficients" with "the second weight-update block adapts the *FFF* coefficients". Support for the amendment is provided in claim 3, wherein the second weight-update block adapts the *FFF* coefficients.

Claim 5 has been amended by replacing "the third coefficient" with "the mapping coefficient" and replacing "the first coefficient" with "the *PP* coefficient". Support for the amendment is provided in page 9, lines 1-5 of the specification, wherein it is disclosed that "The coefficient of the WUB 310 which will be fed into the MAP 330 is assumed as a_i. The coefficient of the PP 320 which is copied from the output of the MAP 330 is assumed as b_i. The relationship between a_i and b_i is,

$$(1-\sum_{i=1}^{M} a_i x^i)(1+\sum_{j=1}^{N} b_j x^j) = 1+\sum_{k=1}^{M+N} c_k x^k, \exists c_k = 0 \text{ if } 0<k<n1,"$$

Thus, according to above disclosure, the "the third coefficient" in claim 5 should be corrected into "the mapping coefficient" and the "the first coefficient" in claim 5 should be corrected into "the PP coefficient".

Claim 6 has been amended by replacing "a weight-update block for adapting the FBF coefficients to cancel the post-cursor ISI and selecting n4 FFF coefficients from the FBF coefficients" with "a *first* weight-update block for adapting the FBF coefficients to cancel the post-cursor ISI and selecting n4 *mapping* coefficients from the FBF coefficients". Support for the amendment is provided in page 8, line 12-14 of the specification, wherein it is disclosed that "The WUB 310 also selects at least one mapping coefficient from the set of the coefficients of the WUB and input the mapping

coefficient to the MAP 330", and wherein since the WUB is used for adapting the FBF coefficients, the coefficients of the WUB thus means the FBF coefficients and the WUB selecting a plurality of *mapping* coefficients from the FBF coefficients. For this reason, the "*FFF* coefficients", which is a typo, should be corrected into the "*mapping* coefficients". Claim 6 has also been amended by replacing "a mapping circuit for translating the FBF coefficients by a predetermined method to generate the PP coefficients and outputting the PP coefficients to the pre-processing unit, wherein at least one element of the set of the FBF coefficients is different from the corresponding element of the set of the PP coefficients" with "a mapping circuit for translating the *mapping* coefficients by a predetermined method to generate the PP coefficients and outputting the PP coefficients to the pre-processing unit, wherein at least one element of the set of the *mapping* coefficients is different from the corresponding element of the set of the PP coefficients". Support for the amendment is provided in page 8, line 12-14 of the specification, wherein it is disclosed that "The MAP 330 translates the mapping coefficient by a predetermined method to generate the updated coefficients of the PP 320. At least one element of the set of the mapping coefficient is different from the corresponding element of the set of the filter coefficients of the PP 320".

Claim 7 has been amended by replacing "the first weight-update block adapts the coefficients" with "the first weight-update block adapts the *FBF* coefficients". Support for the amendment is provided in claim 6, wherein the first weight-update block adapts the *FBF* coefficients.

Claim 9 has been amended by replacing "the second weight-update block adapts the coefficients" with "the second weight-update block adapts the *FFF* coefficients".

Support for the amendment is provided in claim 8, wherein the second weight-update block adapts the *FFF* coefficients.

Claim 10 has been amended by replacing "the fourth coefficient" with "the mapping coefficient" and replacing "the first coefficient" with "the *PP* coefficient". Support for the amendment is provided in page 9, lines 1-5 of the specification, wherein it is disclosed that "The coefficient of the WUB 310 which will be fed into the MAP 330 is assumed as a_i. The coefficient of the PP 320 which is copied from the output of the MAP 330 is assumed as b_i. The relationship between a_i and b_i is,

$$(1-\sum_{i=1}^{M} a_i x^i)(1+\sum_{j=1}^{N} b_j x^j) = 1+\sum_{k=1}^{M+N} c_k x^k, \exists c_k = 0 \text{ if } 0<k<n1,"$$

Thus, according to above disclosure, the "the fourth coefficient" in Claim 10 should be corrected into "the mapping coefficient" and the "the first coefficient" in Claim 10 should be corrected into "the PP coefficient".

For at least the foregoing reasons, the various amendments are fully supported by the original specification. Accordingly, the amendments add new matter to the application.

Conclusion

For the reasons as described above, Applicant believes that claim 1 is allowable in its present form. Insofar as claim 1 is allowable, claims 2-5, all depend from claim 1 and its related claims, including every claimed element thereof, are also allowable on their own merits in claiming additional elements not included in claim 1. Moreover, for the

reasons as described above, Applicant believes that claim 6 is allowable in its present form. Insofar as claim 6 is allowable, claims 7-10, all depend from claim 6, including every claimed element thereof, is also allowable on its own merits in claiming additional elements not included in claim 6.

Withdrawal of the rejections and allowance of the claims, as now presented, are respectfully requested. Applicant has made every effort to place the present application in condition for allowance. It is therefore earnestly requested that the present application, as a whole, receive favorable consideration and that all of the claims be allowed in their present form.

No fee is believed to be due in connection with this amendment and response to Office Action. If, however, any fee is believed to be due, you are hereby authorized to charge any such fee to deposit account No. 20-0778.

Respectfully submitted,

/Daniel R. McClure/

By: _____

Daniel R. McClure
Registration No. 38,962

Thomas, Kayden, Horstemeyer & Risley, LLP
100 Galleria Pkwy, NW
Suite 1750
Atlanta, GA 30339
770-933-9500